

Examiners should be aware that in some cases, candidates may take a different approach, which if appropriate should be rewarded. If in doubt check with your Team Leader.

In the case of an “identify” question read all answers and mark positively up to the maximum marks. Disregard incorrect answers. In the case of a “describe” question, which asks for a certain number of facts *e.g.* “describe two kinds”, mark the **first two** correct answers. This could include two descriptions, one description and one identification, or two identifications.

“ITGS terminology refers to both the IT technical terminology and to the terminology related to social and ethical impacts.”

SECTION A

Area of Impact: Business and Employment

1. (a) **Identify *two* components of the thin client computer that are needed to enable it to be part of a network.** *[2 marks]*

Answers may include:

- Network Interface Card (NIC) is a card (circuit board) inserted into each network station (PC/workstation/server) to allow communication with other stations
- Ethernet card
- client software
- wireless network card.

Award [1 mark] for any of the above components identified up to a maximum of [2 marks].

- (b) **Describe *two* features of a client/server network.** *[4 marks]*

Answers may include:

- network in which one or more computers act as a server
- servers provide access to hardware, software and other resources on the network
- servers may provide a centralized storage area for data and programs.
- network where clients are the user machines that are connected to the server
- client computers may perform some or all of the application processing
- client computers request access to the server to use the hardware devices in the network
- client computers may request access to data and programs stored in the server
- servers can log the activities of users at client machines
- servers provide/manage access rights/access levels to users (to use/install/erase – data or programs).

For the first two descriptions.

Award [1 mark] for identifying one feature of a client/server network and [1 additional mark] for the development of the initial feature identified.

- (c) **Explain why a change to a thin-client approach could be beneficial for the call centre.** **[4 marks]**

Answers may include:

- Computers without hard disks and without having to do the processing should be cheaper. Providing a consultant with one of these computers should cost less than buying a conventional PC with hard disk and processing capabilities.
- Maintenance of computers in the different centers should be reduced as these new computers have no hard disk and therefore there is no need to install software.
- Data is secure: as all data and information is kept on the server these computers do not hold any company data, minimizing the risk of having data stolen. If the consultant takes the computer home and shares it with others this will not be possible as this computer may only be used to connect to the company.
- Portable: can be carried easily as they are made to be small and light allowing consultants to take them and work anywhere as long as they have access to the main server. This would allow consultants to be available at more times and continue with their office work being more productive.
- Thin-client computers are smaller because they have no hard disks therefore occupy less space, smaller furniture may be used and more people can work at the call centre.
- Thin-client computers have less parts and therefore less possibilities of hardware failure.
- Less energy consumption. Dedicated thin-client hardware has much lower energy consumption than typical thick-client PCs. This not only reduces energy costs but may mean that in some cases air-conditioning systems are not required or need not be upgraded which can be a significant cost saving and contribute to achieving energy saving targets.
- Lower noise. Thin-clients do not need internal fans to cool components so make no noise. This can create a more pleasant and productive working environment.

[1 mark]

A limited response that indicates very little understanding of what the benefits would be.

[2–3 marks]

A reasonable description of the benefits a thin client approach would bring to the call centre, although the answer may be unbalanced and lack appropriate reasoning at the bottom end of the band.

[4 marks]

A clear, detailed and precise description of the benefits of a thin client approach for the call centre with clear reasons of why it is better than any other system.

- (d) **Evaluate the usefulness of information collected from network monitoring systems to assess the productivity of employees.** **[10 marks]**

Answers may include:

- monitoring software can be used to record login and logout times to produce a report with total and average working times
- monitoring software can be used to track any Internet activity – identify pages visited, frequency, and any activity on the web site
- printer monitoring – software can track local and network printers, documents printed, number of copies, number of pages
- keyboard and mouse usage – this software can keep a record of computer activity
- recording of calls – a database of calls related to a database of clients/call center operator where all calls are recorded
- employers can identify less productive employees to train them, follow up some problems between staff, look after health problems or replace them.

In part (d) of this question it is expected there will be a balance in the ITGS terminology between IT technical terminology and the terminology related to social and ethical impacts.

Please see generic markband information sheet on page 22.